IN THE CLAIMS

1. (Currently Amended) A method for manufacturing a capacitor of a semiconductor device having a dielectric film of an ONO structure, the method comprising the steps of:

forming an interlayer insulating film on a semiconductor substrate;

forming a storage electrode comprising a doped polysilicon on the interlayer insulating film;

forming a first oxide film on the storage electrode;

subjecting the first oxide film to a thermal treatment in an atmosphere comprising an n-type impurity to implant the impurity into the first oxide film;

forming a nitride film on the first oxide film, whereby the impurity in the first oxide film is diffused into the ~~nitride film~~ interface of the first oxide film and the storage electrode;

forming a second oxide film on the nitride film; and

forming a plate electrode on the second oxide film.

2. (Original) The method according to claim 1, wherein the doped polysilicon is doped with an n-type impurity having a concentration of 1E20 to 5E21/cm^3.

3. (Original) The method according to claim 1, wherein the step of forming the storage electrode further comprises removing a natural oxide film on the storage electrode.

4. (Original) The method according to claim 1, wherein the first oxide layer has a thickness ranging from 5 to 25 Å.

5. (Original) The method according to claim 1, wherein the step of forming the first oxide film comprises a wet oxidation process wherein the semiconductor substrate is dipped in a solution comprising NH_4OH and H_2O_2 having a temperature ranging from room temperature to 80°C for 1 to 10 minutes.

6. (Original) The method according to claim 1, wherein the step of forming the first oxide film comprises a dry oxidation process wherein the semiconductor substrate is subjected to a thermal treatment in an atmosphere containing oxygen selected from the group of O_2, H_2O,

N_2O, NO, O_3 and combinations thereof at a temperature ranging from 500 to 800°C under a pressure ranging from 0.05 to 760 Torr for 3 to 120 minutes.

7. (Original) The method according to claim 1, wherein the gas containing an n-type impurity is selected from the group consisting of PH_3, AsH_3 and combinations thereof, and the thermal treatment is performed at a temperature ranging from 500 to 800°C under a pressure ranging from 0.05 to 760 Torr for 3 to 180 minutes.

8. (Original) The method according to claim 7, wherein the gas containing an n-type impurity further comprises an inert gas.

9. (Original) The method according to claim 1, wherein the nitride film has a thickness ranging from 30 to 60 Å.

10. (Original) The method according to claim 1, wherein the step of forming the nitride film is a process selected from the group of: (a) a CVD method performed in a mixed gas atmosphere comprising SiH_4 and NH_3 or a mixed gas atmosphere comprising SiH_2Cl_2 and NH_3 at a temperature ranging from 600 to 800°C under a pressure ranging from 0.05 to 2 Torr; (b) nitriding the first oxide film in a gas atmosphere of NH_3, a mixed gas atmosphere of NH_3 and Ar or a mixed gas atmosphere of NH_3 and N_2 at a temperature ranging from 600 to 800°C under a pressure ranging from 0.05 to 760 Torr; and (c) combinations thereof.

11. (Original) The method according to claim 1, wherein the step of forming the second oxide film comprises a thermal process performed in an atmosphere containing oxygen at a temperature ranging from 650 to 800°C under a pressure ranging from 0.05 to 760 Torr for 3 to 120 minutes.

Claims 12-16 (Canceled).